IN THE CLAIMS:

The status and content of each claim follows. *No amendments are proposed by the present paper.*

1. (original) A method of forming an interface between components having different rates of volumetric expansion, said method comprising forming an interface surface of said interface with respect to a center of growth such that slippage occurs at said interface between said components during volumetric expansion.

2. (original) The method of claim 1, further comprising:

defining an axis of volumetric expansion for a first component;

projecting a sphere with a center on said axis; and

defining the center of said sphere as said center of growth.

3. (original) The method of claim 2, further comprising:

projecting a perimeter of said first component onto said sphere to define a projection line; and

forming said interface surface based on a plurality of planes each of which includes said center of growth, a point on said projection line and a tangent to that point on said projection line.

4. (original) The method of claim 3, wherein said forming said interface surface further comprises forming said interface surface tangent to all of said planes in said plurality of planes.

5. (original) The method of claim 3, further comprising

defining a second axis of volumetric expansion for a second component;

projecting a sphere with a center on said second axis; and

defining the center of said sphere as said center of growth.

projecting a perimeter of said second component onto said sphere to define a second projection line; and

forming a second interface surface in said assembly based on a plurality of planes each of which includes said center of growth, a point on said second projection line, and a tangent to that point on said second projection line.

6. (original) The method of claim 5, wherein said forming said interface surface further comprises forming said interface surface tangent to all of said planes in said plurality of planes.

7. (original) The method of claim 3, further comprising forming a second component having a complimentary interface surface that is configured to interface with said interface surface.

8. (original) The method of claim 7, wherein said complimentary interface surface of said second component substantially corresponds to said interface surface.

9. (original) The method of claim 1, wherein said components comprise components in a thermally cycled device.

10. (original) The method of claim 9, wherein said thermally cycled device comprises a fuel cell system.

11. (original) The method of claim 10, wherein said fuel cell system comprises a solid oxide fuel cell system.

12. (original) A method of forming a thermally cycled component assembly, comprising:

forming a first component including:

determining dimensional characteristics of said first component,

defining an axis of volumetric expansion for said first component,

projecting a sphere having a center on said axis,

defining the center of said sphere as a center of growth of said first component,

projecting a perimeter of said component onto said sphere to define a projection line, and

forming an interface surface of said first component based on a plurality of planes each of which includes said center of growth, a point on said projection line and a tangent to that point on said projection line.

13. (original) The method of claim 12, further comprising forming a second component having a complimentary interface surface configured to associate with said interface surface.

14. (original) The method of claim 13, further comprising assembling said first and second components by interfacing said interface surface and said complimentary interface surface to form said assembly.

15. (original) The method of claim 14, further comprising forming a shear plane between said interface surface and said complimentary interface surface that allows slippage during volumetric cycling of said first and second components.

16. (original) The method of claim 15, further comprising allowing said shear plane to reduce thermal stress in said first and second components.

17. (original) The method of claim 12, further comprising forming a plurality of components by:

determining dimensional characteristics of each component,

defining an axis of volumetric expansion for each component,

defining a center of growth for each of said components, and

forming an interface surface for each of said components with respect to the center of growth for that component.

18. (original) The method of claim 17, wherein said forming an interface surface further comprises:

for each component, locating a sphere of predetermined radius with a center on said axis of volumetric expansion;

locating said sphere along said axis based on a desired location for said interface surface; and

defining the center of said sphere as the center of growth for that component.

19. (original) The method of claim 18, further comprising:

projecting a perimeter of that component on said sphere to form a projection line; and

forming an interface surface of that component based on a plurality of planes each of which includes the center of growth for that component, a point on the projection line for that component and a tangent to that point on the projection line.

20. (original) The method of claim 19, further comprising assembling said components.

21. (original) The method of claim 20, wherein assembling said components further comprises assembling said components such that each of said centers of growth are substantially coincident.

22. (original) The method of claim 17, wherein said center of growth for each of said components is the same point.

23. (original) The method of claim 17, wherein said components comprise components used in a thermally cycled device.

24. (original) The method of claim 23, wherein said thermally cycled device comprises a fuel cell system.

25. (original) The method of claim 17, wherein said components comprise an electrical pass through assembly.

26. (original) The method of claim 17, wherein said components comprise a ceramic retention feature assembly.

27. (original) The method of claim 17, wherein said components comprise an end cell seal assembly.

28. (original) The method of claim 24, wherein said thermally cycled device comprises a solid oxide fuel cell system.

29. (original) The method of claim 13, further comprising disposing a seal between said interface surface and complimentary interface surface.

30. (original) The method of claim 29, wherein said seal comprises a liquid metal seal

31. (original) The method of claim 17, wherein each of said components have different rates of expansion.

32. (original) An assembly having least one interface between components having different rates of volumetric expansion, said interface being formed with an interface surface that is formed with respect to a center of growth such that slippage occurs at said interface between said components during volumetric expansion.

33. (original) The assembly of claim 32, wherein said interface is further formed by:

defining an axis of volumetric expansion for a first component;

projecting a sphere with a center on said axis; and

defining the center of said sphere as said center of growth.

34. (original) The assembly of claim 33, wherein said interface is further formed by:

projecting a perimeter of said first component onto said sphere to define a projection line; and

forming said interface surface based on a plurality of planes each of which includes said center of growth, a point on said projection line and a tangent to that point on said projection line.

35. (original) The assembly of claim 34, wherein said forming said interface surface further comprises forming said interface surface tangent to all of said planes in said plurality of planes.

36. (original) The assembly of claim 35, further comprising a second component having a complimentary interface surface configured to interface with said interface surface.

37. (original) The assembly of claim 32, wherein said interface surface is formed in a first component, said assembly further comprising a second component having a complimentary interface surface configured to interface with said interface surface of said first component.

38. (original) The assembly of claim 32, wherein said assembly comprises a thermally cycled device.

39. (original) The assembly of claim 38, wherein said assembly comprises a fuel cell system.

40. (original) The assembly of claim 39, wherein said fuel cell system comprises a solid oxide fuel cell system.

41. (original) The assembly of claim 32, wherein said assembly comprises an electrical pass through assembly.

42. (original). The assembly of claim 32, wherein said assembly comprises a ceramic retention feature assembly.

43. (original) The assembly of claim 32, wherein said assembly comprises an end cell seal assembly.

44. (original) The assembly of claim 32, further comprising a seal disposed in said interface between said components.

45. (original) The assembly of claim 44, wherein said seal comprises a liquid metal seal

46. (original) A system for forming an interface, comprising:

first and second components wherein said first and second components have different rates of volumetric expansion; and

means for forming a shear-plane interface between said first and second components to permit slippage along said shear-plane interface;

wherein said shear-plane interface is formed with reference to a center of growth of said first or second component.

47. (original) An interface, comprising:

first and second components wherein said first and second components have different rates of volumetric expansion; and

means for allowing slippage along a shear-plane between said first and second components;

wherein said means for allowing slippage comprise a shape of said shear-plane which is formed with reference to a center of growth of said first or second component.